

REMARKS

Reconsideration and withdrawal of the rejections of the pending claims are respectfully requested in view of the amendments and remarks herein, which place the application in condition for allowance. The present amendments to the claims do not add any subject matter that has not already been considered by the Examiner. Therefore, Applicants respectfully request entry of the amendments and reconsideration of the claims.

I. STATUS OF CLAIMS AND FORMAL MATTERS

Claims 1-6 and 9-12, and 14-22 are pending in this application upon entry of this amendment. Claims 1-6, 11 and 14-17 have been withdrawn from further consideration. Claims 9, 10, 12, and 18-22 are under consideration. Claims 9, 10, 12, and 21 have been amended and new dependent claim 22 has been added solely to expedite prosecution of the pending claims and for clarity. Support for the amendments and for the new claim can be found throughout the specification and in the claims as originally filed. No new matter has been added.

The Examiner is thanked for withdrawing the objections to claims 9-10 and 12-13.

It is submitted that the claims, herewith and as originally presented, are patentably distinct over the prior art cited in the Office Action, and that these claims were in full compliance with the requirements of 35 U.S.C. § 112. It is submitted that the amendments of the claims, as presented herein, are not made for purposes of patentability within the meaning of 35 U.S.C. §§ 101, 102, 103 or 112. Rather, these amendments and additions are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

The issues raised by the Examiner in the Office Action are addressed below in the order they appear in the prior Action.

II. THE REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH, IS OVERCOME

Claim 21 is rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse the rejection.

The Examiner alleges that the phrase “such as” renders the claim indefinite because it is unclear whether the limitations “a dog or a cat” following the phrase are part of the claimed invention.

Claim 21 has been amended to delete the recitation of “such as a dog or a cat” thereby rendering the rejection moot. New dependent claim 22 has been added to recite that the domestic companion animal is a dog or a cat.

Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. §112, second paragraphs, are respectfully requested.

III. THE REJECTIONS UNDER 35 U.S.C. § 103(a) ARE OVERCOME

Claims 9-10, 12 and 18-21 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Manning *et al.* (WO 98/28279) and in further view of Ribeill *et al.* (WO 00/35884). Applicants respectfully disagree and traverse the rejection.

The Examiner is respectfully reminded of the case law, namely, that there must be some prior art teaching which would have provided the necessary incentive or motivation for modifying the reference teachings. *In re Laskowski*, 12 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989); *In re Obukowitz*, 27 U.S.P.Q. 2d 1063 (BOPAI 1993). As stated by the Court in *In re Fritch*, 23 U.S.P.Q. 2d 1780, 1783-1784 (Fed. Cir. 1992): “The mere fact that the prior art may be modified in the manner suggested by the Office Action does not make the modification obvious unless the prior art suggests the desirability of the modification.” Also, the Examiner is respectfully reminded that for the Section 103 rejection to be proper, both the suggestion of the claimed invention and the expectation of success must be founded in the prior art, and not Applicants' disclosure. *In re Dow*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988).

Furthermore, the Supreme Court has recently reaffirmed the factors set out in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18: “[T]he scope and content of the prior art are determined; differences between the prior art and the claims at issue are...ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727.

Applying the law to the instant facts, the references relied upon by the Office Action do not render Applicants' invention obvious.

The Office Action alleges that the general structures taught by Manning in further view of Ribeill encompass the general class of 1-arylpyrazoles of the pending claims. The Examiner also asserts that Manning (claim 21) and Ribeill (claim 1) teach the methods for the control of pests in or on an animal which comprise administering to said animal a pesticidally effective amount of a corresponding compound of formula (I) or a salt thereof. The Examiner concludes that it would have been obvious to one of ordinary skill in the art, at the time of the instant invention to arrive at the instant method for controlling pests with the instant 1-arylpyrazoles based on the teachings of Manning and Ribeill with a reasonable expectation of success.

Contrary to the Examiner's assertion, the cited references, alone or in combination, do not teach or suggest the methods for controlling pests at a locus comprising applying to said locus an effective amount of the presently claimed compounds. The compounds recited in the claims as amended are neither described specifically or generically by Manning or Ribeill. Substituent Z in the compounds of Manning, which is described as amino, R_6NH- or R_7R_8N , and substituent R_4 of the compound of formula (I) described by Ribeill do not correspond to the instant 5-amino substituent, $N-(R^4)-A-S(O)_mR^5$.

For example, Manning describes that the group Z at the 5-position of the pyrazole ring may be R_7R_8N- , where R_7 and R_8 are alkyl- $S(O)_p-$, formyl, alkynyl, alkoxycarbonyl, alkylthiocarbonyl, aroyl, optionally substituted alkyl, optionally substituted alkenyl or $-C(O)alkyl$. However, Manning does not describe that Z may be the group $-N-(R^4)-A-S(O)_mR^5$ where the nitrogen atom is substituted by the groups $CO_2-(C_3-C_6)-alkenyl$, $CO_2-(C_3-C_6)-alkynyl$, $-CO_2-(CH_2)_q-R^7$, $-CH_2R^7$, $-CH_2R^9$, OR^7 , $COCO_2R^{10}$, $COCONR^{10}R^{11}$, or $CO_2-(C_1-C_3)-alkyl$ which is substituted by one or more radicals selected from the group consisting of halogen, $(C_1-C_3)-alkoxy$ and $(C_1-C_3)-alkylthio$, as recited in amended claims 9, 10 and 12 (variable R^4). Neither the broad genus of formula (I) described by Manning nor any of the specific compounds listed in the document teach or suggest that the nitrogen atom in the group R_7R_8N at the 5-position of the pyrazole may be substituted by any of the groups recited in the claims as amended.

Ribeill relates to the methods of controlling pests by applying compounds of general formulae (I), (XX) and (II) which are structurally different from the compounds of pending

claims. The compounds of formula (II) are substituted with the methylideneamino groups $-N=C(R_{25})N(R_{26})(R_{27})$ or $-N=(R_{25})-N(R_{27})-R_{28}$ at the 5-position of the pyrazole ring (see page 13, line 24), and the compounds of formula (XX) contain an amide group at the 5-position of the pyrazole ring (see page 4, lines 4-5). These compounds are distinct from the compounds recited in the claims. Furthermore, the compounds of formula (I) of Rebeill are substituted with the groups $-N=C(R_5)-Z-R_6$, $-N=C(R_5)-N(R_7)-R_8$ or $-N(R_9)-C(R_5)=NR_6$. Of these, the groups $-N=C(R_5)-Z-R_6$, $-N=C(R_5)-N(R_7)-R_8$ are substituted methylideneamino groups, having a nitrogen-carbon double bond, not a substituted amino group, as recited in the claims. Further, the group $-N(R_9)-C(R_5)=NR_6$ also includes a carbon-nitrogen double bond and is distinct from the group $-N-(R^4)-A-S(O)_mR^5$ recited in the claims. Therefore, the general structures taught by Manning in further view of Ribeill do not encompass the general class of 1-arylpyrazoles of the pending claims.

In contrast to the teaching of Manning and Ribeill, the compounds of the present invention (see, for example, Tables 3-7 of the application as published) possess a novel 5-substituted alkylamino moiety, $N-(R^4)-A-S(O)_mR^5$, where R^4 is $CO_2-(C_3-C_6)$ -alkenyl, $CO_2-(C_3-C_6)$ -alkynyl, $-CO_2-(CH_2)_q-R^7$, $-CH_2R^7$, $-CH_2R^9$, OR^7 , OR^8 , $COCO_2R^{10}$ or $COCONR^{10}R^{11}$; or $CO_2-(C_1-C_3)$ -alkyl substituted by one or more radicals selected from the group consisting of halogen, (C_1-C_3) -alkoxy and (C_1-C_3) -alkylthio, and are clearly distinct from the compounds described by Manning and Ribeill. The compounds recited in the claims as amended are not encompassed by the broad formulae taught by Manning or Ribeill. Furthermore, neither Manning alone nor Manning in combination with the teaching of Ribeill suggest the compounds recited in the amended claims or provide any motivation to produce the compounds.

The Examiner cites the Supreme Court decision in *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007), asserting that consistent with the decision, it would have been obvious to select an R_5 from the disclosure of Manning to be haloalkyl and Z to be a tertiary amino group to arrive at the compounds recited in the claims. It is noted that the Supreme Court held that the particular invention in question in KSR was held obvious, however, the Court also communicated that **“a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.”** KSR, 127 S. Ct., at 1741 (emphasis added), consistent with a broad body of patent law. Further, reliance on the “obvious to try” doctrine was limited by the Supreme Court to “[w]hen there is a design need or

market pressure to solve a problem and there are a **finite number of identified, predictable solutions...**" KSR, 127 S. Ct., at 1742 (emphasis added). Contrary to the Examiner's assertion that the teachings of Manning and Ribeill provide a finite number of 1-arylpyrazole compounds, the references when considered as a whole describe broad formulae that represent an enormous number of possible compounds when all variable substitutions are considered. The Examiner's focus on the specific combination of a haloalkyl group for R₅ with a tertiary amino group for Z only considers a small subset of the possible compounds represented by the broad formula (I) of Manning. Applicants note that formula (I) of Manning include the variables R₁, R₂, R₃, R₄, M, R₁₀, R₉, m, n, p and q, each of which has multiple possible definitions. In addition, variables R₅ and Z have multiple definitions, and variable Z encompasses further variables R₆, R₇, R₈ and R₉, which allow for additional choices. The selection of specific functional groups from a broad teaching that encompasses an enormous possible number of compounds to arrive at the compounds recited in the claims in the absence of any suggestion or motivation involves the impermissible benefit of hindsight.

Furthermore, Applicants respectfully submit that it is well accepted that the biological activity of compounds is not generally predictable. There are many examples in the art, where small changes in substituents of molecules can lead to significantly different steric and electronic properties which may have a significant impact on the activity of the compounds. The activity of the presently claimed compounds with a novel 5-substituted alkylamino moiety, N-(R⁴)-A-S(O)_mR⁵, where R⁴ is CO₂—(C₃-C₆)-alkenyl, CO₂—(C₃-C₆)-alkynyl, —CO₂—(CH₂)_q—R⁷, —CH₂R⁷, —CH₂R⁹, OR⁷, OR⁸, COCO₂R¹⁰ or COCONR¹⁰R¹¹; or CO₂—(C₁-C₃)-alkyl substituted by one or more radicals selected from the group consisting of halogen, (C₁-C₃)-alkoxy and (C₁-C₃)-alkylthio, cannot be predicted based on the teachings of Manning and Ribeill, as the cited references do not relate to compounds with such specific, electronically and sterically demanding modifications, that can significantly improve the pesticidal activity of this class of compounds compared to the activity of 5-amino derivatives of Manning and Ribeill.

Some of the objects of the present invention are to provide new pesticides which may be used in lower dose than existing pesticides, which are safer to the user and the environment, which may be applied to animals in oral form, provide high level of pest control for a longer time period and consequently require less frequent dosing and which are substantially non-emetic (for example, see page 1, paragraphs 003-0010 of the application as published). The presently

claimed compounds address a high demand for novel compounds which are advantageous over the known compounds and satisfy the objects of the present invention.

In view of the foregoing, it would not have been obvious to one of ordinary skill in the art, at the time of the instant invention to arrive at the instant method for controlling pests with the instant 1-arylpyrazoles based on the teachings of Manning and Ribeill with a reasonable expectation of success. One of ordinary skill in the art at the time of the instant invention would not expect that the compounds recited in the pending claims could be used for controlling pests at a locus in a lower dose than existing pesticides, that they are safer to the user and the environment, that they may be applied to animals in oral form providing high level of pest control for a longer time period and consequently requiring less frequent dosing, and that they are substantially non-emetic based on the cited references.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

CONCLUSION

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the remarks and amendments herein, and prompt issuance of a Notice of Allowance is respectfully requested.

If the Examiner believes any informalities remain in the application, which may be corrected by Examiner's amendment, or whether any other issues can be resolved by telephone interview, a telephone call with the undersigned attorney is courteously solicited.

Although no fee is believed due, the Examiner is authorized to charge any deficiency to Deposit Account No. 50-2354.

Respectfully submitted,
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